

Work Order ID 64949

Tuesday, January 04, 2011 3:01:45 PM



Page 1

Item ID: D206-667-103TRN

Accept



Setup Start



Revision ID:

Stop



Item Name: Crosstube Turning DetailL

Start Date: 1/4/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 1/14/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

Date: 11-01-11

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D206-667-143

Rev C

100

0.00



Mori Seiki

MORI SEIKI CNC LATHE LARGE

Memo

0.00

aml 11/01/20

Mori Seiki CNC Lathe Large

1-Fill tube with sand & install plugs DT8534 on both ends as per Folio
FA087 2-Turn first side as per Folio FA087 3-File down transition lines
smooth.

110

0.00



QC

QC1- Inspect dimensions to dimension sheet

Memo

0.00

aml 11/01/20

Quality Control

120

0.00



Mori Seiki

MORI SEIKI CNC LATHE LARGE

Memo

0.00

aml 11/01/21

Mori Seiki CNC Lathe Large

1-Turn second side as per Folio FA087 2-File down transition lines smooth.
3-Remove sand and plugs

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

QC1- Inspect dimensions to dimension sheet

0.00



QC

Memo

0.00

Quality Control

140

QC8- Inspect parts - second check

0.00



QC

Memo

0.00

Quality Control

150

Crosstubes Chemical Conversion

0.00



HandFXtube

Memo

0.00

Hand Finishing Crosstubes

B11/01/25

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Page 3

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Accept



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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

DP 11-1-25

170

Packaging

0.00



Packaging

Memo

0.00

Packaging

Identify and stock in kanban rack ☐ Location: 2/G

DP 11-1-25

180

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

n/01/2011
ME
11-01-25

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Picklist Print

Tuesday, January 04, 2011 3:01:54 PM

Page 1

Work Order ID: 64949

Parent Item: D206-667-103TRN

Parent Item Name: Crosstube Turning DetailL



Start Date: 1/4/2011

Required Date: 1/14/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A 08-03-06 new issue DD verified by:ec
IPP Rev B 08.04.02 removed polish EC verified by DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6002-115 		Manufactured	No			110	Each	42.0000	1	1			

Crosstube Material

Location

Loc Qty

Loc Code

LG

42

34684

1

34776

41

1 on 1/10/120

W/O:		WORK ORDER CHANGES					
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DART AEROSPACE LTD	Work Order:	04949
Description: Crosstube Assembly (206L High Fwd)	Part Number:	D206-667-143
Inspection Dwg: D206-667-143 Rev: C		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Inspection Sheet	Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.240	+0.005/-0.000	2.244	✓		Micr	ML-03
	1.982	+0.005/-0.000	1.984	✓			
	2.019	+0.005/-0.000	2.024	✓			
	2.058	+0.005/-0.000	2.063	✓			
	2.097	+0.005/-0.000	2.102	✓			
	2.136	+0.005/-0.000	2.141	✓			
	2.176	+0.005/-0.000	2.180	✓			
	2.201	+0.005/-0.000	2.204	✓			
	0.125	+/-0.010	.135	✓		Vern	ML-7
	0.400 x 30°	+/-0.010	.400 x 30°	✓		"	"
	R0.063	+/-0.010	R.063	✓		Rad-gage	REF
	R0.500	+/-0.010	R.500	✓		"	"
	4.438	+/-0.030	4.438	✓		Vern	ML-7
SIDE B	104.98	+/-0.020	104.980	✓			
	2.240	+0.005/-0.000	2.245	✓		Micr	ML-03
	1.982	+0.005/-0.000	1.983	✓			
	2.019	+0.005/-0.000	2.024	✓			
	2.058	+0.005/-0.000	2.063	✓			
	2.097	+0.005/-0.000	2.102	✓			
	2.136	+0.005/-0.000	2.141	✓			
	2.176	+0.005/-0.000	2.180	✓			
	2.201	+0.005/-0.000	2.205	✓			
	0.125	+/-0.010	.128	✓		Vern	ML-7
	0.400 x 30°	+/-0.010	.400 x 30°	✓		"	"
	R0.063	+/-0.010	R.063	✓		Rad-gage	REF
	R0.500	+/-0.010	R.500	✓		"	"
	4.438	+/-0.030				Vern	ML-7

Measured by:	<i>[Signature]</i>	Audited by:	<i>[Signature]</i>	Preliminary Approval:	N/A
Date:	11/01/21	Date:	11/1/25	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	04.05.06	New Issue (P/O D206-667-103)	KJ/RF	
B	06.03.09	Dwg Rev updated	KJ/JLM	
C	10.09.13	Dwg Rev updated	KJ	<i>[Signature]</i>

W/O:		WORK ORDER CHANGES					
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Item	Qty -143	Part Number	Description
1	X	D206-667-143	CROSSTUBE ASSEMBLY (206L HIGH FWD)
2	1	D6002-115	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2891-1	SUPPORT
6	4	D3595-063-395	RUBBER CUSHION
7	4	MS21920-20	CLAMP (OR MS21920-21)
8	14	MS20601AD4W8	RIVET (OR NAS9302B-4-8)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6002-115
FINISHED LENGTH = 104.98±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D206-667-143" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: 15.5 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY. TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 10 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2891-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-20 CLAMPS (OR -21) WITH D3595-063-395 RUBBER CUSHIONS TO SECURE THE D2891-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS ARE LOCATED ON CROSSTUBE SUPPORTS.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TO TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 64949
BS 11-01-4

RELEASED
08/11/06

C	REVISE GENERAL NOTES/PART LIST (ZN D7-1); REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS. D3595-063-395 WAS D2858-400-694 (ZN D6-2 & A5-2); REMOVED REF. & ADD TOLERANCE (ZN D3-3, C4-3, C5-3); RELOCATED FLAG #6 (ZN A8-3) PER NCR 210; MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4.	RF	08.11.06
B	ADD HOLES AND NUT PLATES FOR COMPATABILITY WITH BHT/AA SKUDTUBES	PH	05.07.26
A	NEW ISSUE	CP	00.11.17
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF	DRAWING NO. D206-667-143	REV. C SHEET 1 OF 4
CHECKED	RF	TITLE CROSSTUBE ASS'Y (206L HIGH FWD)	SCALE NTS
MFG. APPR.	RF	COPYRIGHT © 2000 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
APPROVED	RF	DATE 08.11.06	

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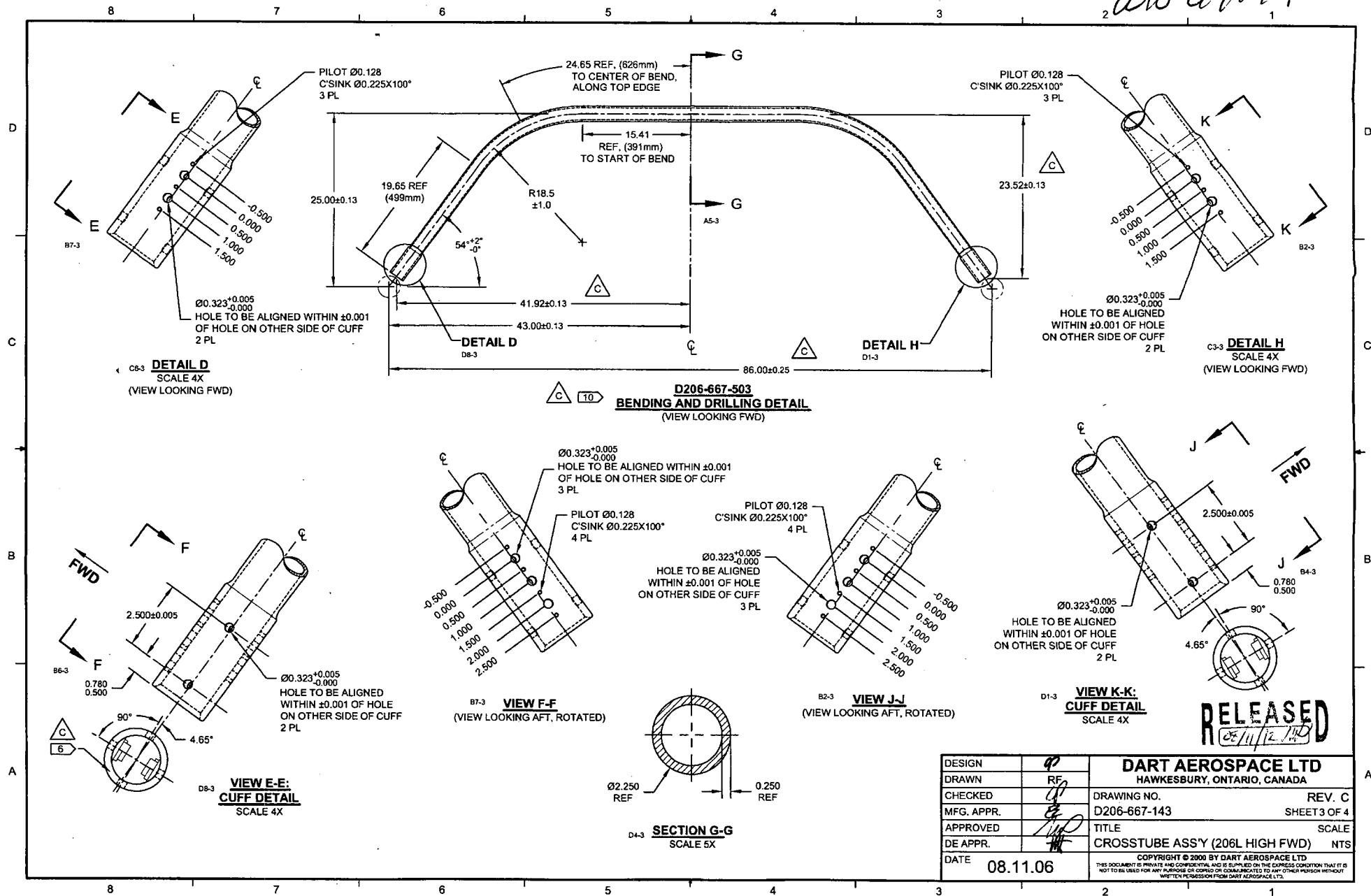
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u/c 64949



DESIGN	4P	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	RF	DRAWING NO.	REV. C
MFG. APPR.	RF	D206-667-143	SHEET 3 OF 4
APPROVED	RF	TITLE	SCALE
DE APPR.	RF	CROSSTUBE ASS'Y (206L HIGH FWD)	NTS
DATE	08.11.06	COPYRIGHT © 2000 BY DART AEROSPACE LTD	
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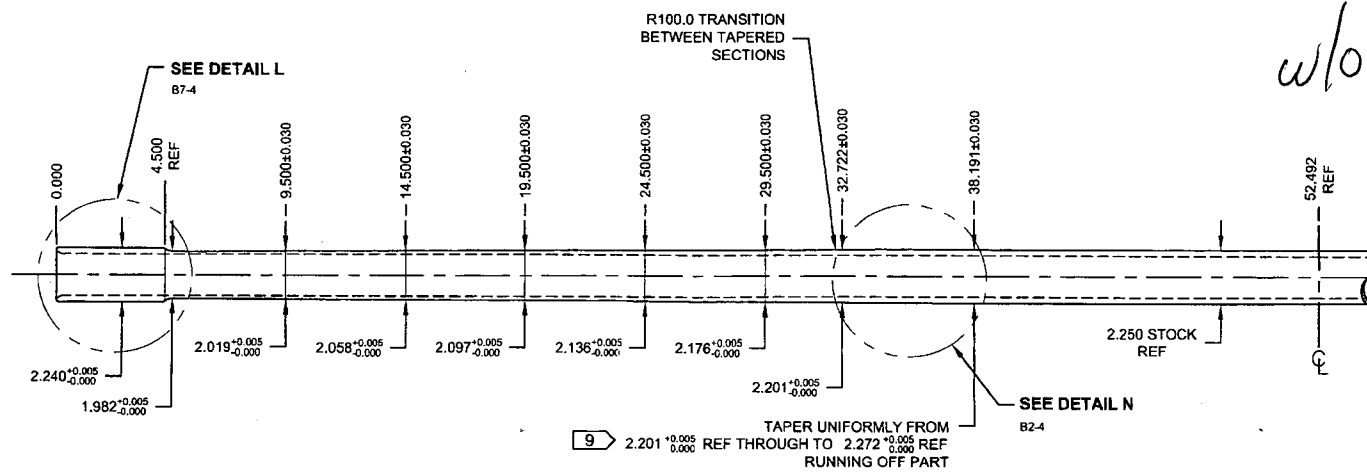
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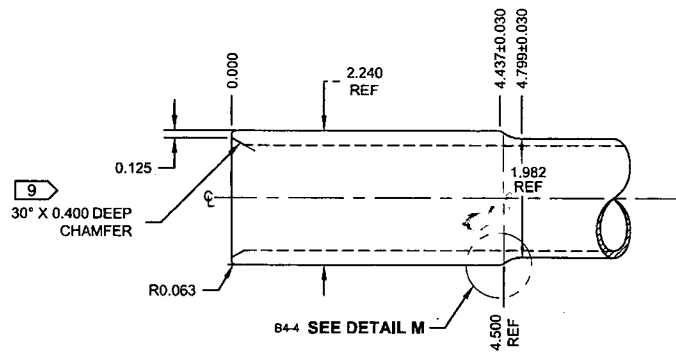
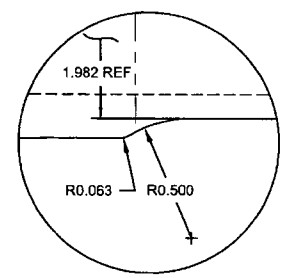
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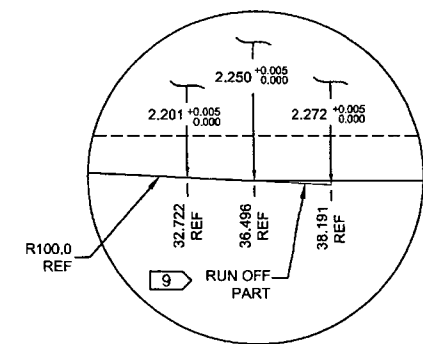
w/o 44949



TURNING DETAIL



DETAIL L:
D7-4 **CROSSTUBE CUFF**
NOT TO SCALE



DETAIL N:
C4-4 **TAPER RUN-OFF**
NOT TO SCALE

RELEASED

DETAIL M:
A6-4 **CUFF TRANSITION**
NOT TO SCALE

DESIGN	47	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	47	DRAWING NO.	REV. C
MFG. APPR.	47	D206-667-143	SHEET 4 OF 4
APPROVED	47	TITLE	SCALE
DE APPR.	47	CROSSTUBE ASSY (206L HIGH FWD)	NTS
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